

I. Listing of the Claims

1. (Previously Presented): A medical grasping device comprising:

an elongate control member having an atraumatic distal tip section and a proximal end portion, the elongate control member further including a grasping portion positioned between the proximal end portion and the distal tip section, wherein the grasping portion includes a plurality of preformed wire loops with proximal end portions joined to the elongate control member;

an outer sheath having a distal end, a proximal end, and a passageway extending between the distal and proximal ends, the elongate control member being slidable within the passageway relative to the outer sheath; and

an actuation section connected to the proximal end portion of the elongate control member, the actuation section moving the grasping portion in and out of the distal end of the outer sheath, the actuation section including a retraction mechanism that biases the actuation section proximally causing a relative motion between the elongate control member and the sheath urging the grasping portion towards a retracted state;

wherein each of the wire loops is pie-shaped upon deployment from the distal end of the outer sheath, each wire loop having an arcuate outer section, the arcuate outer sections cooperating to form a circular perimeter substantially perpendicular to a longitudinal axis of the elongate control member, each arcuate outer section having a radius about equal to a radius of the circular perimeter, each wire loop having an opening, the openings cooperating to substantially fill the circular perimeter, further wherein moving the elongate control member distally relative to the outer sheath expands the circular perimeter and cooperatively expands the radius of

the arcuate outer sections thereby increasing the openings of the wire loops to again substantially fill the circular perimeter.

2. (Original): The grasping device of claim 1 wherein the grasping portion is drawn within the outer sheath in the retracted state.

3. (Previously Presented): The grasping device of claim 1 wherein the actuation section includes a slide member with a face and the retraction mechanism includes a spring and a flange, the slide member being movable relative to the flange and the spring being positioned between the face and the flange.

4. (Original): The grasping device of claim 3 wherein the spring is a helical spring.

5. (Original): The grasping device of claim 5 wherein the spring is made from stainless steel.

6. (Previously Presented): The grasping device of claim 3 wherein the spring has an elongated state, the spring being in the elongated state when the retraction mechanism is in the retracted state.

7. (Original): The grasping member of claim 6 wherein the spring is compressed from the elongated state when the actuation section moves the grasping portion out of the distal end of the outer sheath.

8. (Original): The grasping member of claim 1 further comprising a handle coupled to the outer sheath, the actuation section being mounted to the handle, the actuation section being movable in a reciprocal manner relative to the handle.

9. (Original): The grasping device of claim 8 wherein the actuation section includes a connecting block coupled to the elongate control member and positioned within a longitudinal slot of the handle, the connecting blocking being is movable along the slot between opposite ends of the slot.

10. (Original): The grasping device of claim 1 wherein the outer sheath is flexible and kink-resistant and has lubricious outer and inner surfaces.

11. (Original): The grasping device of claim 1 wherein the atraumatic distal tip section tapers to a blunt and rounded tip.

12. (Cancelled).

13. (Previously Presented): The grasping device of claim 1 wherein the wire loops are each made of a superelastic alloy.

14. (Original): The grasping device of claim 13 wherein the superelastic alloy is Nitinol.

15. (Previously Presented): The grasping device of claim 1 wherein the proximal ends of each loop has a cold-worked bend.

16. (Previously Presented): The grasping device of claim 1 wherein the plurality of wire loops self-deploy transversely relative to the outer sheath upon emerging from the distal end of the outer sheath.

17. (Cancelled).

18. (Original): The grasping device of claim 17 wherein each of the wire loops includes side sections that overlap with side sections of adjacent wire loops.

19. (Cancelled).

20. (Previously Presented): The grasping device of claim 1 wherein each of the wire loops includes an arcuate outer section that upon deployment extends toward a wall of a vessel into which the grasping device is inserted.

21. (Original): The grasping device of claim 20 wherein each of the wire loops includes a distal portion, proximal ends joined to the elongate control member, and arcuate side sections extending between the distal portion and proximal ends and curving toward the distal end of the elongate control member.

22. (Original): The grasping device of claim 1 wherein the grasping portion includes four preformed wire loops that deploy transversely upon emerging

from the distal end of the outer sheath, the wire loops being approximately equally spaced about a longitudinal axis of the elongate control member to generally occupy a full cross-section of a vessel into which the grasping device is inserted.

23. (Cancelled).

24. (Previously Presented): A medical grasping device comprising:

an elongate control member having an atraumatic distal tip section and a proximal end portion, the elongate control member further including a grasping portion positioned between the proximal end portion and the distal tip section, wherein the grasping portion includes a plurality of loops;

an outer sheath having a distal end, a proximal end, and a passageway extending between the distal and proximal ends, the elongate control member being slidable within the passageway relative to the outer sheath; and

an actuation section connected to the proximal end portion of the elongate control member, the actuation section moving the grasping portion in and out of the distal end of the outer sheath, the actuation section including a retraction mechanism that biases the actuation section proximally causing a relative motion between the elongate control member and the sheath urging the grasping portion towards a retracted state;

wherein each of the plurality of loops deploy outwardly substantially perpendicular to the longitudinal axis of the elongate control member to form an circular perimeter that adjusts based on the relative motion between the elongate control member and the outer sheath, a size and radius of loops adjusting along with the circular perimeter to substantially fill the circular perimeter.

25. (Previously Presented): A medical grasping device comprising:

an elongate control member having an atraumatic distal tip section and a proximal end portion, the elongate control member further including a grasping portion positioned between the proximal end portion and the distal tip section, wherein the grasping portion includes a plurality of preformed wire loops with proximal end portions joined to the elongate control member;

an outer sheath having a distal end, a proximal end, and a passageway extending between the distal and proximal ends, the elongate control member being slidable within the passageway relative to the outer sheath; and

an actuation section connected to the proximal end portion of the elongate control member, the actuation section moving the grasping portion in and out of the distal end of the outer sheath, the actuation section including a retraction mechanism that biases the actuation section proximally causing a relative motion between the elongate control member and the sheath urging the grasping portion towards a retracted state;

wherein the grasping portion has an intermediate state where each of the wire loops is substantially circular and each of the wire loops includes side sections that overlap with side sections of adjacent wire loops;

wherein the grasping portion has a fully deployed state where the side sections of the each wire loop extend radially between the elongate control member and an arcuate outer section, the arcuate outer sections cooperating to form a circular perimeter substantially perpendicular to a longitudinal axis of the elongate control member, each arcuate outer section having a radius about equal to a radius of the circular perimeter, each wire loop having an opening, the openings cooperating to substantially fill the circular perimeter.

26. (Previously Presented): The medical grasping device according to claim 25, wherein each side section of each wire loop is substantially parallel to an adjacent side section of an adjacent wire loop in the fully deployed state.

27. (Previously Presented): The medical grasping device according to claim 26, wherein the opening of each wire loop is smaller in the intermediate state than the fully deployed state.